The following papers were read:—

1. Note on a Substance ejected from the Stomach of a Hornbill (*Buceros corrugatus*). By W. H. Flower, F.R.S. &c.

The body described by Mr. Bartlett and Dr. Murie at the last Meeting of the Society*, and placed in my hands for further examination, consists of a sac of somewhat globular form, and averaging an inch and three-quarters in diameter. On one side it has a large ragged aperture, the margins of which are folded inwards so as to close the orifice. Its walls are thin, slightly plicated, moderately tough and consistent, though torn without difficulty, translucent, and of a dark brown colour. The margins of the aperture are softer and of a paler colour.

The contents of this sac are perfectly non-adherent to it and readily removed. They consist of sixteen raisins in an undigested condition, mostly with their skins broken, packed pretty closely together and somewhat softened; but as the specimen had become partially dry before it was procured, and has been for several months in spirit, their exact condition at the time of ejection cannot now be ascertained. Among the raisins were a few flakes of the same material as that of which the sac was composed.

A superficial examination led at once to the belief that it consisted of the entire epithelial lining of the gizzard; and a closer investigation, aided by comparison with the gizzard of the bird which ejected it, removed after death and preserved by Dr. Murie, corroborated this view.

The muscular coat of this gizzard is thin, almost membranous; and the epithelial lining forms a layer of nearly uniform thickness, having no specially thickened lateral triturating disks as in granivorous birds. It, moreover, peels off from the subjacent fibro-vascular coat (from the follicles in which it is secreted) with great facility. In this instance numerous small nematode worms had lodged themselves beneath it.

Making allowance for the drying and subsequent hardening in spirit that the former has undergone, the microscopic structure of the ejected sac and of the epithelial layer which lined the stomach of the bird at the time of its death are identical. Both swell up and become more transparent when treated with liquor potassæ; both turn a bright yellow colour with nitric acid. Sections of both present a matrix slightly laminated, with scattered nuclei and granules. I was not able to detect in either the definite structure ascribed to the epithelial stratum of the gizzard of granivorous birds†; only near the attached surface, where the secretion is most recent, a parallel striation was observed in vertical sections of both.

The specimens have, through the kindness of Dr. Murie and Mr. Bartlett, been placed in the Museum of the Royal College of Surgeons.

* See P. Z. S. 1869, p. 142.

† See P. Z. S. 1860, p. 330.